

REMARKS

Claims 1-29 remain in the application.

35 USC 112 rejections

The Examiner has rejected claims 9-18 under 35 USC 112 for being indefinite for failing to particularly point out and distinctly claim the subject matter. Examiner notes that claims 9-18 are method claims which depend from apparatus claims.

Applicant has amended claim 9 (and therefore claims 10-18, which depend on claim 9) to explicitly claim the apparatus elements. Applicant respectfully requests that the 35 USC 112 rejections be withdrawn.

35 USC 102 rejections

The Examiner has rejected claims 19 and 20 as being anticipated by Wei et al. Applicant respectfully traverses these rejections and requests reconsideration.

Wei's invention is directed to increasing film thickness measurement accuracy, either by determining the center of the measurement pad or by taking into account the effects of the surrounding material in analyzing the measurement data. The techniques are based on the assumption that there are surrounding materials of heights different from the measurement pad which affect the measurement accuracy. All figures and examples in Wei refer to film thickness measurement accuracy. The measurements at the five sites on the wafer shown in Tables 1 and 2 relate only to reproducibility of thickness measurements over 15 runs, rather than relating to the actual thickness uniformity of the thin film. Nowhere does Wei disclose determining the thickness difference between the center and the remaining locations, nor determining the thickness uniformity across the wafer portion from these at least five measurements.

In contrast, an aspect of the present invention is directed to determining the uniformity of the actual thickness of the wafer remaining after milling. The formation of the thickness map does not require any thickness steps, and it is not directed to the measurement of thin films atop a wafer, as in Wei. In contrast to Wei, the instant application discloses and claims determining the thickness difference between the center and the remaining locations, and determining the thickness uniformity across the wafer portion from these at least five measurements. Further, the wafer portion is explicitly stated in the instant application to have a mirror polished surface. There is no mention of a mirror polished surface in Wei.

According to the above discussion, it is clear that claims 19 and 20 of the instant application are not anticipated by Wei. Applicant respectfully requests that the 35 USC 102 rejections be withdrawn.

35 USC 103 rejections

The Examiner has rejected claim 29 as being unpatentable over Wei in view of Dischiano. Applicant respectfully traverses this rejection and requests reconsideration.

The mounting of Dischiano is directed toward supporting a flip chip die undergoing analysis such as circuit testing or debugging, including the possibility of milling, to provide added support and rigidity. In contrast, the apparatus of Wei is directed to simple optical measurements which do not involve grinding or milling. There is no implication or teaching in either Dischiano or Wei which would suggest combining the rigid mounting of Dischiano with the apparatus of Wei.

The present invention includes milling, and therefore requires a rigid mounting, i.e., the wafer portion mounted on a lapping puck and then positioned

on the viewing stage for optical measurements. The apparatus disclosed and claimed in the instant application therefore includes both the mounting and the fixture positioned on the optical tool.

It is not permissible to use hindsight to combine references. Since the combination of the rigid lapping puck mounting with the optical tool of the present apparatus is neither suggested nor implied by Wei or Dischiano, Applicant respectfully requests that the 35 USC 103 rejection of claim 29 be withdrawn.

To facilitate prosecution of the instant application, Applicant has rewritten claims 21 and 22 in independent form, also impacting claim 23 which depends on claim 22.

Applicant has made a diligent attempt to respond to all of the Examiner's points. It is believed that the application is now in condition for allowance. An early Notice is requested.

Respectfully submitted,

A handwritten signature in black ink, reading "Deborah W. Wenocur". The signature is written in a cursive, flowing style.

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